

Claims:

1. A process for preparing a custard apple jam without discoloration, bitterness, and off-flavor, said process comprising steps of (a) mixing a sweetening agent with custard apple pulp; (b) partially dehydrating the mixture of step (a) below the temperature of 55°C; (c) adding additives such as sweetening agent, preservatives, settling agent and other food additives; and (d) boiling the mixture of step (c) at a temperature between 90 – 100°C and cooling the mixture to obtain the jam.
2. A process as claimed in claim 1, said process comprising the steps of:
 - (a) obtaining the custard apple pulp;
 - (b) mixing the custard apple pulp of step (a) with a sweetening agent in the ratio of 1 : 0.5 to 1 : 1 to obtain a pulp mixture;
 - (c) partially dehydrating the pulp mixture of step (b) under vacuum below a temperature of 55°C to obtain a partially dehydrated pulp mixture;
 - (d) adding a preheated syrup containing a sweetening agent, a setting agent and a flavoring agent to the partially dehydrated pulp mixture of step (c);
 - (e) boiling the mixture of step (d) till the total soluble solids reaches to 68°B to 70°B;
 - (f) allowing the mixture of step (e) to cool to the room temperature, and
 - (g) adding permitted food preservatives to the range of 50 ppm to 250 ppm to obtain the custard apple jam.
3. A process as claimed in claim 2 wherein in step (a), the custard apple pulp is obtained from fresh ripe custard apple fruits.
4. A process as claimed in claim 2 wherein in step (a), the custard apple pulp is obtained by scooping the pulp from ripe fruits using a pulper followed by separating the seeds from the same.
5. A process as claimed in claim 2 wherein in step (b), the sweetening agent used is sugar.
6. A process as claimed in claim 2 wherein in step (c), the pulp mixture is partially dehydrated under vacuum of 0.2 to 0.8 Kgcm⁻².
7. A process as claimed in claim 2 wherein in step (c), the pulp mixture is partially dehydrated to remove 40 to 60% moisture content.
8. A process as claimed in claim 2 wherein in step (d), the sweetening agent used is sugar.
9. A process as claimed in claim 2 wherein in step (d), the setting agent used is pectin.

10. A process as claimed in claim 2 wherein in step (d), the flavoring agent used is citric acid.
11. A process as claimed in claim 2 wherein in step (d), the partially dehydrated pulp is mixed with 10 to 30% by wt. of sugar, 0.7 to 1.0 % by wt. of pectin and 0.4 to 0.55 % by wt. of citric acid.
12. A process as claimed in claim 2 wherein in step (e), the mixture is boiled at a temperature ranging between 95°C to 98°C.
13. A process as claimed in claim 2 wherein in step (g), the permitted food preservative is sodium benzoate.
- 10 14. A custard apple jam obtained by following the process of claim 1, wherein jam comprises custard apple pulp along with adequate quantity of a sweetening agent, a setting agent, a flavoring agent and a food preservative.
15. A custard apple jam obtained by following the process of claim 1, wherein the jam contains 35-55 % by wt. of custard apple pulp, 45 to 60 % by wt. of a sweetening agent, 0.5 to 1.5 % by wt. of a setting agent, 0.25 to 1.0 % by wt. of a flavoring agent and 0.01 to 0.05 % by wt. of a food preservative.
- 15 16. A custard apple jam obtained by following the process of claim 1, wherein the sweetening agent is sugar.
17. A custard apple jam obtained by following the process of claim 1, wherein the setting agent is pectin.
- 20 18. A custard apple jam obtained by following the process of claim 1, wherein the flavoring agent is citric acid.
19. A custard apple jam obtained by following the process of claim 1, wherein the food preservative is sodium benzoate.
- 25 20. A process obtained by following the process of claim 1, wherein the jam is shelf stable at ambient temperature for a period of not less than 6 months.

AMENDED CLAIMS

[received by the International Bureau on 28 January 2004 (28.01.04);
original claims 1, 14-20 amended; remaining claims unchanged (5 pages)]

1. A process for preparing a custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor, said process comprising steps of (a) mixing a sweetening agent with custard apple pulp; (b) partially dehydrating the mixture of step (a) below the temperature of 55°C; (c) adding additives such as sweetening agent, preservatives, settling agent and other food additives; and (d) boiling the mixture of step (c) at a temperature between 90 – 100°C and cooling the mixture to obtain the jam.
2. A process as claimed in claim 1, said process comprising the steps of:
 - (a) obtaining the custard apple pulp;
 - (b) mixing the custard apple pulp of step (a) with a sweetening agent in the ratio of 1 : 0.5 to 1 : 1 to obtain a pulp mixture;
 - (c) partially dehydrating the pulp mixture of step (b) under vacuum below a temperature of 55°C to obtain a partially dehydrated pulp mixture;
 - (d) adding a preheated syrup containing a sweetening agent, a setting agent and a flavoring agent to the partially dehydrated pulp mixture of step (c);
 - (e) boiling the mixture of step (d) till the total soluble solids reaches to 68°B to 70°B;
 - (f) allowing the mixture of step (e) to cool to the room temperature, and
 - (g) adding permitted food preservatives to the range of 50 ppm to 250 ppm to obtain the custard apple jam.
3. A process as claimed in claim 2 wherein in step (a), the custard apple pulp is obtained from fresh ripe custard apple fruits.
4. A process as claimed in claim 2 wherein in step (a), the custard apple pulp is obtained by scooping the pulp from ripe fruits using a pulper followed by separating the seeds from the same.
5. A process as claimed in claim 2 wherein in step (b), the sweetening agent used is sugar.
6. A process as claimed in claim 2 wherein in step (c), the pulp mixture is partially dehydrated under vacuum of 0.2 to 0.8 Kgcm⁻².
7. A process as claimed in claim 2 wherein in step (c), the pulp mixture is partially dehydrated to remove 40 to 60% moisture content.

8. A process as claimed in claim 2 wherein in step (d), the sweetening agent used is sugar.
9. A process as claimed in claim 2 wherein in step (d), the setting agent used is pectin.
10. A process as claimed in claim 2 wherein in step (d), the flavoring agent used is citric acid.
11. A process as claimed in claim 2 wherein in step (d), the partially dehydrated pulp is mixed with 10 to 30% by wt. of sugar, 0.7 to 1.0 % by wt. of pectin and 0.4 to 0.55 % by wt. of citric acid.
10. A process as claimed in claim 2 wherein in step (d), the flavoring agent used is citric acid.
11. A process as claimed in claim 2 wherein in step (d), the partially dehydrated pulp is mixed with 10 to 30% by wt. of sugar, 0.7 to 1.0% by wt. of pectin and 0.4 to 0.55% by wt. of citric acid.
12. A process as claimed in claim 2 wherein in step (c), the mixture is boiled at a temperature ranging between 95°C to 98°C.
13. A process as claimed in claim 2 wherein in step (g), the permitted food preservative is sodium benzoate.
14. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein said jam comprises custard apple pulp along with adequate quantity of a sweetening agent, a settling agent, a flavoring agent and a food preservative.
15. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein said jam contains 35-55% by wt. of custard apple pulp, 45 to 60% by wt. of a sweetening agent, 0.5 to 1.5% by weight of a settling agent, 0.25 to 1.0% by wt. of a flavoring agent and 0.01 to 0.05% by wt. of a food preservative.
16. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein said jam is shelf stable at ambient temperature for a period of not less than 6 months.

17. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein the sweetening agent is sugar.
18. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein the settling agent is pectin.
19. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein the flavoring agent is citric acid.
20. A custard apple jam having higher shelf life and without discoloration, bitterness, and off-flavor obtained by the process as claimed in claim 1, wherein the food preservative is sodium benzoate.

STATEMENT UNDER ARTICLE 19(1)

Claims 1 and 14 to 20 have been revised to reflect that the custard apple jam prepared by the process of the present invention having higher shelf life, free from bitterness, discoloration and off-flavor whereas Document D1 (RAO S N: "Anonas. The legendary fruit," Indian Horticulture 1974 Agric. Coll., Bapatla, AP. India) merely mentions that the jam/jelly having a shelf life for a short period of time can be attempted. Apart from the above, the cited document neither teaches the preparation of the jam from custard apple in terms of its steps or parameters, nor mentions any ingredients of the jam/jelly. Whereas, the present invention deals with a process for preparing custard apple jam and clearly indicates the ingredients and other details of the same. The jam thus obtained by the present process having higher shelf life, free from bitterness, discoloration and off-flavor. More particularly, the jam thus obtained by the present process having shelf life of up to six months. The present process is a unique process arrived after much experimentation. In fact, the partial dehydration step below 55°C and boiling the mixture between 90 – 100°C prevents discoloration, development of bitterness and off-flavor of the custard apple pulp. Therefore, Applicant respectfully submit that the cited document does not disclose the above-identified facts and request the learned Examiner to waive the objections.

Document D2 (DE 28 42 820 a (HOYOS PEDRO): This document does not deal with any information exclusively on a sweet product like jam which is solely prepared from custard apple. Accordingly, the Applicants invention "custard apple jam" is novel and it

deals with a process to produce sweet jam with pleasant flavour similar to other fruit jams, prepared from fresh fruits. Such a product is neither reported nor available in the market till now and hence the cited documents do not envisage the present novel and non-obvious process claimed by the Applicants in the present application.

Finally, the Applicants submit that the amendments made to the claims are falling within the scope of the originally filed specification and no additional material or matter is added to the amended claims. In fact, the amendments carried to the claims are of restrictive in nature.